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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,389

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Takafumi Suzuki

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7590

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EXAMINER

LACLAIR, DARCY D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,389	Applicant(s) SUZUKI ET AL.	
	Examiner Darcy D. LaClair	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 3-7 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-13 and 15-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **2/20/2009**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on **2/20/2009**. In particular, **Claims 1, 12, 17, and 25** have been amended to recite that the calcium hydroxide is produced by reacting an aqueous solution of water-soluble calcium salt with an aqueous solution of an alkali metal hydroxide. This limitation was not present in the claims at the time of the preceding Office Action. Additionally, **NEW Claims 28 and 29** have been added reciting the species of calcium salt and alkali metal hydroxide. Thus, the following action is properly made **FINAL**.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specifically, certified English translations of both **JP 2003-383824**, filed November 13, 2003, and **JP 2003-383825**, filed November 13, 2003, have been received. The priority documents in question have been closely reviewed, and support is noted for the original and amended **Claims 1-2, 8-13, 15-18, 25, and 28-29**. Support for **Claims 19-23 and 26-27** is not observed. Specifically, support for the subject matter

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and limitations dealing with hydrotalcite is not observed in the disclosures of any of these applications, and therefore claims containing this limitation (viz. **Claims 19-23 and 26-27**) are not entitled to the benefit of priority to the previously cited copending applications. In view of the above discussion, the present claims are treated as if their effective filing date is the actual filing date of the present application.

Claim Rejections - 35 USC § 102

2. **Claims 1-2, 8-11 and 25** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hidekazu et al. (JP 09-278435)**

In setting forth this rejection, in the absence of a full English-Language translation of **JP 09-278435**, a machine translation has been relied upon.

It is noted that **Claims 1 and 25**, with respect to the production of calcium hydroxide, is stated in product by process format.

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Absent showing of criticality, the process limitations in a product-by-process claim do not carry patentable weight.

The rejection is adequately set forth in **paragraphs 14-21** of the office action mailed **8/20/2008**, and is incorporated here by reference.

Claim Rejections - 35 USC § 103

3. **Claims 12-13, 15-19, 21, 24, 26 and 28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyata et al. (US 6,592,834)** in view of **Hidekazu et al. (JP 09-278435)**.

In setting forth this rejection, in the absence of a full English-Language translation of **JP 09-278435**, a machine translation has been relied upon.

It is noted that **Claims 12 and 17**, with respect to the production of calcium hydroxide, is stated in product by process format.

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Absent showing of criticality, the process limitations in a product-by-process claim do not carry patentable weight.

The rejection of **Claims 12-13, 15-19, 21, 24, and 26** is adequately set forth in **paragraphs 23-35** of the office action mailed **8/20/2008**, and is incorporated here by reference.

With regard to Claims 28 and 29, Miyata teaches that calcium hydroxide can be obtained by a process comprising adding a water-soluble calcium salt aqueous solution to an aqueous solution containing at least one equivalent of alkali metal hydroxide. (See col 2 line 18) This is an alternative method to a slacked lime process. (See col 2 line 33-40) The calcium salt is calcium chloride or calcium nitrate and the alkali metal hydroxide is sodium hydroxide or potassium hydroxide. (See col 3 line 20-23) Miyata

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does not teach add an anion derived from an organic acid as an impurity in the calcium hydroxide. Hidekazu teaches that the additives including succinic acid (organic acid) (see par [0005], [0014]) improves the reactivity of the calcium hydroxide, the specific surface area, and reduces the hydration of the calcium hydroxide (see par [0017]) allowing a dry calcium hydroxide product. (see par [0011]) Given the equivalence of these methods for generating calcium hydroxide demonstrated by their simultaneous teaching by Miyata, it would be obvious to one of ordinary skill in the art to include the additives of Hidekazu in the production of calcium hydroxide by either method taught by Miyata. Accordingly, it would be obvious to use an aqueous reaction of calcium salt which is calcium chloride or calcium nitrate with an alkali metal hydroxide which is sodium or potassium hydroxide. In view of ref Miyata's recognition that the reaction method and the slacking method are equivalent and interchangeable, it would have been obvious to one of ordinary skill in the art to substitute the slacking method with the reaction method and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

4. **Claims 20, 23, 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyata et al. (US 6,592,834)** in view of **Hidekazu et al. (JP 09-278435)**, further in view of **Katsuki et al. (US 6,291,570)**

In setting forth this rejection, in the absence of a full English-Language translation of **JP 09-278435**, a machine translation has been relied upon.

The rejection is adequately set forth in **paragraphs 36-41** of the office action mailed **8/20/2008**, and is incorporated here by reference.

5. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyata et al. (US 6,592,834)** in view of **Hidekazu et al. (JP 09-278435)**, further in view of **Katsuki et al. (US 6,291,570)** with *evidence* provided by **Miyata et al. (US 3,879,525)** and **Kooli et al. (J. Mat. Sci, 1993)**

In setting forth this rejection, in the absence of a full English-Language translation of **JP 09-278435**, a machine translation has been relied upon.

The rejection is adequately set forth in **paragraphs 42-43** of the office action mailed **8/20/2008**, and is incorporated here by reference.

Response to Arguments

6. Applicant's arguments filed **2/20/2009** have been fully considered. Specifically, applicant argues **(A)** Claim 11 and 17 have been amended to clarify that the claim is directed to a surface-treated calcium hydroxide which is obtained by surface treating the calcium hydroxide of Claim 1, in addition to the steps recited in Claim 1, **(B)** Takafumi has a publication date of November 19, 2003; As the present application claims priority to JP 2003-383824, filed November 13, 2003, and JP 2003-383825, filed November 13, 2003, and certified English translations of both have been included, the rejection is moot

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and should be withdrawn, **(C)** Hidekazu is directed to calcium hydroxide that is produced by a slaking method, contrary to the amended claims of the present invention which require calcium hydroxide produced by reacting an aqueous solution of a water soluble calcium salt with an aqueous solution of an alkali metal hydroxide; Table 3 shows that calcium hydroxide has a smaller average secondary particle diameter and BET surface area in comparison with calcium hydroxide produced by a slacking method, and the calcium hydroxide of the present invention tends to have a smaller diameter but the BET surface area does not increase like the calcium hydroxide produced by the slacking method; a large BET surface area in an additive to a synthetic resin leads to a resin which is easily heat deteriorated and colored, therefore the calcium hydroxide of the present invention is suitable for use as an additive for synthetic resins, unlike that produced by the slacking method; since structure implied by process steps should be considered when assessing the patentability of process limitations, the rejection over Hidekazu should be withdrawn, **(D)** Miyata does not disclose or suggest calcium hydroxide produced by reacting an aqueous solution of an alkali metal hydroxide in the presence of A^{n-} ; Table 4 on page 34 of the present specification shows Comparative Example 4 which does not contain an A^{n-} ; this corresponds to Miyata's composition and shows the very worst value for time to blacken; Accordingly, the calcium hydroxide of the present invention would not be obvious to one of ordinary skill in the art, and shows unexpected results over the prior art, **(E)** Katusuki, Miyata '525, and Kooli do not make up for the deficiencies of Miyata and Hidekazu, described above, and accordingly the claims rejected under this art are patentable as well.

With respect to arguments (A), applicant's arguments have been considered and the objections have been withdrawn *in light of applicant's amendment*. Support for the amendment on page 10 line 14 to page 12 line 19 is acknowledged.

With respect to arguments (B), as support is noted for the original and amended **Claims 1-2, 8-13, 15-18, 25, and 28-29**, and the rejection over Takafumi deals with **Claims 1-2, 8-11 and 15**, applicant's arguments have been considered and are **persuasive**.

With respect to arguments (C), applicant's arguments have been considered but are **not persuasive**. First, with regard to the amendment to the claim, it is noted that the amendment requiring calcium hydroxide produced by reacting an aqueous solution of water-soluble calcium salt with an aqueous solution of an alkali metal hydroxide is stated in **product-by-process** format.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Absent showing of criticality, the process limitations in a product-by-process claim do not carry patentable weight. Although applicant has argued that calcium hydroxide produced by the slacking method is not appropriate to the invention, it is noted that the specification for the present invention that "the calcium hydroxide of the present invention can be produced by (i) slacking-reacting calcium oxide in water or (ii) reacting a water-soluble calcium salt with an alkali metal hydroxide." (p. 7 line 5-9) Furthermore, applicant teaches that "increase in the BET surface area occurs because crystal growth

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is inhibited by the additive which acts as a crystal growth inhibitor and controls the solubility of calcium hydroxide.” (p. 9 line 15-18) Finally, Table 3, to which applicant refers, shows the Slacking Method as well as Reaction Method as providing inventive examples. Both Table 3 and Table 1 appear to show Reaction Method and Slacking method examples which have overlapping particle size as well as BET area. (Compare Table 1 Ex 20 and Table 1 Ex 12, 18, and 19) Table 3 also appears to deal solely with the addition of silicon dioxide, which is not consistent with applicant’s elected species. (See paragraph 1-3 of the office action Mailed **8/20/2008**) Contrary to applicant’s assertion that calcium hydroxide produced by the slacking method is not suitable for use as an additive for synthetic resins because of the difference in BET surface area, it appears from applicant’s own teachings that the BET surface area is a function of the additive (organic acid), which is taught by Hidekazu. (See abstract, par [0014])

In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (i.e., diameter and BET surface area) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Hidekazu teaches a calcium hydroxide particle which meets both the size and the BET surface area requirements. (see par [0005])

With regard to argument (D), applicant’s arguments have been considered but are **not persuasive**. The examiner concedes that Miyata alone does not disclose or suggest “calcium hydroxide produced by reacting an aqueous solution of an alkali metal

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hydroxide in the presence of A^{n-} (see Remarks, p. 9 par 3), nor does it alone disclose or suggest calcium hydroxide produced by reacting an aqueous solution of calcium salt with alkali metal hydroxide in the presence of A^{n-} . However the rejection over Miyata in view of Hidekazu does not rely on Miyata alone, But rather on the combination of Miyata and Hidekazu. Miyata teaches a surface treated calcium hydroxide with impurities and its use in a resin composition (See abstract, col 1 line 59-64). The treated calcium hydroxide constitutes an improvement over conventional calcium hydroxide, which is not well dispersible in resin compositions. (See col 1 line 36-39). Kidekazu teaches an improved calcium hydroxide which has enhanced reactivity. (See abs, par [0001]) Given that Miyata has taught impurities and that the surface treatment improves the dispersion of the calcium hydroxide in resin, and Hidekazu teaches a treated calcium hydroxide with an A^{n-} impurity, which has enhanced reactivity, which would further improve the interaction with the resin, it would be obvious to one of ordinary skill in the art to use the calcium hydroxide of Hidekazu in the composition of Miyata.

With regard to argument (E), applicant's arguments have been considered but are **not persuasive**. The alleged deficiencies of Miyata and Hidekazu are discussed above, with regard to arguments **(C)** and **(D)**.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796